

Abstract of the Disclosure

An image sensor is an apparatus for sensing a light beam to generate a digital image data. The image sensor includes a pixel array for sensing a light beam to generate an analog image data, a control and interface unit for managing an interface with external circuits and generating control signals, a decoding unit for decoding the column address signal to generate a column selection signal, and a conversion unit for converting the analog image data into a digital image data. The conversion unit includes a ramp voltage generation circuit for generating a ramp voltage signal, a comparison circuit for comparing a voltage level of the ramp voltage signal with that of the analog image data to generate a latch enable signal, a storage circuit for storing the digital count signal in response to the latch enable signal and outputting stored digital count signal to a bit line in response to the control signals, and an acceleration circuit for detecting a voltage variation of the bit line to accelerate the voltage variation of the bit line.